

Public Utilities Commission of the
City and County of San Francisco

Power Enterprise

Green Bonds Annual Report

For Fiscal Year Ending
June 30, 2018

Photo: Mountain Tunnel, near Groveland, CA



San Francisco
Water Power Sewer
Services of the San Francisco Public Utilities Commission

Introduction

This annual green bonds spending report provides project spending details on the projects funded by the following bond issuances of the Power Enterprise of the Public Utilities Commission of the City and County of San Francisco (SFPUC):

- **Power Revenue Bonds Series 2015 A (Green Bonds)**

The SFPUC is a department of the City and County of San Francisco and provides drinking water to the City of San Francisco and wholesale water agencies located in three Bay Area counties, wastewater services to the City of San Francisco, and green hydroelectric and solar power to retail customers and the City's municipal departments. The Power Enterprise provides hydroelectric, solar and other power, serving City municipal customers, the Modesto Irrigation District and the Turlock Irrigation District, and other public agencies and retail customers, and provides pedestrian and streetlight services. The Power Enterprise also operates and maintains the natural gas and electric utilities systems on Treasure Island/Yerba Buena Island pursuant to an agreement with Treasure Island Development Authority.

Green Bonds for Power Capital Projects

On May 20, 2015, the SFPUC issued Power Revenue Bonds, Series 2015 A (Green Bonds) which generated \$30,200,000 in project fund proceeds. The SFPUC self-certified the Green Bonds. The purpose of designating the bonds as Green Bonds was to communicate to investors the environmentally beneficial projects as outlined in the Power Revenue Bonds Official Statement. Proceeds funded the following project areas:

- Hetch Hetchy Project hydroelectric generation facilities
- Other renewable energy projects, such as biomass and biowaste, solar and wind
- Energy conservation projects, such as energy-efficient streetlights.

The reconstruction or replacement projects funded by the 2015 Series A Bonds involve generation components of the hydroelectric facilities of the Hetch Hetchy Project which produces 100% greenhouse gas-free electricity. The majority of these funds were earmarked for a project to rewind generators at the Moccasin Powerhouse, one of three hydroelectric powerhouses operated by the SFPUC.

In early 2016, the San Francisco Public Utilities Commission (SFPUC) retained Sustainalytics to review a partial reallocation of green bond proceeds to include additional eligible projects (reports attached).

Green Bond Spending Details

The proceeds from the green bond issuances are separately tracked and allocated to designated eligible projects. Spending by bond and eligible project is detailed in the table below.

Table 1: Green Bond Proceeds Spending Detail
Power Series 2015 A
As of June 30, 2018

Project	Estimated Use of Proceeds	FY 15-16*	FY 16-17*	FY 17-18	Total Expended	Total Remaining
Hydroelectric Powerhouse Controls Upgrade	\$ 437,288	\$ 30,635	\$ -	\$ -	\$ 30,635	\$ 406,653
Kirkwood Penstock Rehabilitation	1,227,712	17	80,424	1,147,271	1,227,712	-
Moccasin Penstock Rehabilitation	2,667,000	23,959	1,258,567	122,871	1,405,397	1,261,603
Mountain Tunnel Hydroelectric Conveyance	11,332,000	-	7,491,117	1,963,058	9,454,175	1,877,825
Oil Containment Upgrades for Holm & Kirkwood Hydroelectric Facilities	2,800,000	19,877	625,393	166,376	811,646	1,988,354
Other Powerhouse Projects - Holm Unit 2	13,000,000	399,650	782,478	1,257,291	2,439,420	10,560,580
Total	\$30,200,000	\$474,138	\$10,237,979	\$4,656,869	\$15,368,986	\$16,095,014

* Expenditures updated to reflect reallocation of prior year costs.

REVIEW OF SFPUC'S GREEN BOND REALLOCATION OF FUNDS

May 10th, 2016

San Francisco Public Utilities Commission (SFPUC) has engaged Sustainalytics to review the reallocation of its Series A Power Revenue Bonds (Green Bonds) funds from the rewind of hydropower generators at the Moccasin Powerhouse to the Mountain Tunnel Rehabilitation Project and Penstock¹ Rehabilitation Projects.

Background

In 2015, SFPUC issued its Series A Power Revenue Bonds (Green Bonds) with proceeds amounting to 32,025,000 USD. The purpose of designating the bonds as Green Bonds was to enable investors to invest in “environmentally beneficial projects”, also referred to as “Green Projects”, as outlined in the Power Revenue Bonds Official Statement (“Official Statement 2015”).² Such projects include:

- i) Hetch Hetchy Project hydroelectric generation facilities;
- ii) Other renewable energy projects, such as biomass and biowaste, solar and wind, and;
- iii) Energy conservation projects such as energy efficient streetlights.

The reconstruction or replacement projects expected to be funded by the 2015 Series A Bonds all involve generation components of the hydroelectric facilities of the Hetch Hetchy Project which produces greenhouse gas-free electricity. The majority of these funds were earmarked for a project to rewind generators at the Moccasin Powerhouse, part of the Hetch Hetchy Project. The Hetch Hetchy Project is composed of three hydroelectric powerhouses: the Moccasin Powerhouse, which includes a small, in-line hydroelectric unit, the Kirkwood Powerhouse and the Holm Powerhouse. The Moccasin Powerhouse relies on gravity-driven water flowing downhill from the Hetch Hetchy reservoir via Mountain Tunnel and the Moccasin Penstocks. The Kirkwood Powerhouse relies on the Kirkwood Penstock immediately preceding the powerhouse that conveys water to its hydropower generation facilities (see map Appendix A).

¹ Penstocks are conveyance pipes which transport water to powerhouses in SFPUC's Hetch Hetchy Project.

² Power Revenue Bonds Official Statement 2015.

Reallocation of Use of Proceeds Funds

In 2016, SFPUC determined that Mountain Tunnel was in need of urgent, critical repair and should thus be prioritized over the reconstruction or replacement of powerhouse generators in order to ensure the continued supply of water and electricity to SFPUC's customers. The SFPUC further determined that the penstocks are likewise in need of immediate repair and therefore is planning to reallocate Green Bond proceeds from generator repair to the Mountain Tunnel Rehabilitation Project and the Penstock Rehabilitation Projects.

Environmental Impact of Mountain Tunnel and Penstocks Rehabilitation Projects

Through consultation with Sustainalytics and through the provision of supporting documents, SFPUC confirmed that Mountain Tunnel and Penstocks Rehabilitation projects have undergone a Categorical Exemption Analysis, which demonstrated that the project would not result in adverse environmental effects. The Planning Department of the City of San Francisco determined that this project is categorically exempt under the California Environmental Quality Act (CEQA) Section 15301, Class 1 (Existing Facilities). Class 1 includes minor alteration of existing public or private structures, facilities, mechanical equipment, or topographical features, involving negligible or no expansion of use. Projects would be conducted in compliance with applicable federal, State, and local regulations and under contractual provisions prohibiting work in violation of applicable regulations and plans.

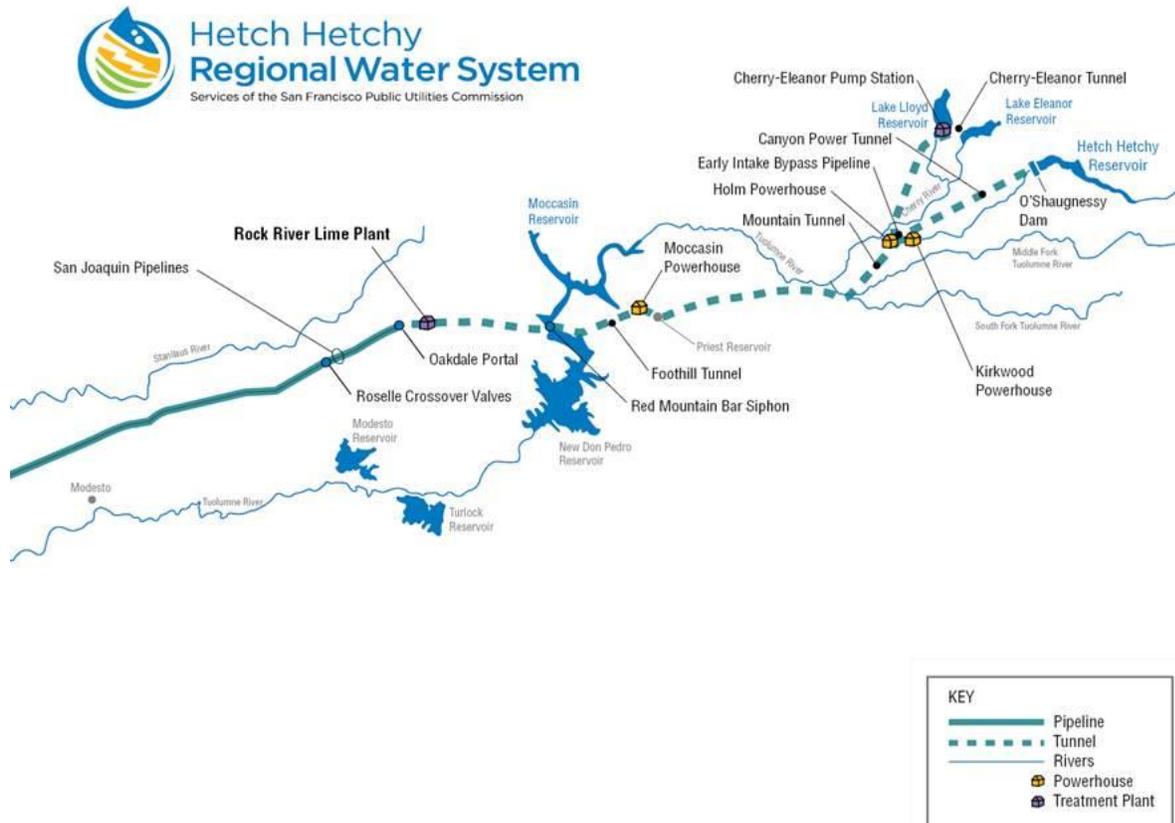
The outcome of this assessment is as follows:

- Mountain Tunnel and Penstocks Rehabilitation projects are considered to be a vital component to the overall function of the Hetch Hetchy Power System;
- Sustainalytics reviewed the relevant project documents and had conversations with relevant SFPUC team members to confirm the low environmental impact of the Mountain Tunnel project;
- The reallocation of Green Bond proceeds to the Mountain Tunnel and Penstock Rehabilitation Projects, from generator repair, helps to achieve the same objective of enabling the Hetch Hetchy Power system to continue to produce renewable energy, free of GHG emissions;
- It is reasonable to conclude that the Mountain Tunnel and Penstock Rehabilitation Projects are in line with the description of "Green Projects" in the Official Statement and that proceeds can therefore be allocated to its rehabilitation.

Conclusion: Based on our assessment of SFPUC's description of "Green Projects" in its Official Statement 2015, and on a review of the environmental impacts of both the Mountain Tunnel and the Penstock Rehabilitation Projects, Sustainalytics has concluded that the reallocation of Green Bond proceeds from their originally planned use to the Mountain Tunnel Rehabilitation Project and the Penstock Rehabilitation Projects are in line with the intended impact of the Series A Power Revenue Bonds and will enable investors to fund environmentally beneficial projects.

It should be noted that the Green Bond Principles 2015 state that "the cornerstone of a Green Bond is the utilization of the proceeds of the bond which should be appropriately described in the legal documentation for the security". Full alignment with the Green Bond Principles 2015 would mean allocating proceeds to projects in the categories explicitly described in the Official Statement 2015. Nonetheless, the reallocation is, as stated above, in line with the intended impact of the use of proceeds.

Appendix 1: Map of Hetch Hetchy Regional Water System



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